Current Claim Listing

The following presents a current claim listing for the convenience of the Examiner. No amendments to the claims are currently submitted.

1. (Original) A system for enriching timbre of audio signals by adding swelling resonance, twang, or both, said system comprising:

an incoming audio signal; and

a plurality of audio signal delays, wherein each delay of said plurality of audio signal delays receive signal inputs comprising said incoming audio signal and a distinct high resonance positive feedback signal, and includes a distinct selectable delay time corresponding to a period of a desired resonant frequency, wherein each delay of said plurality of audio signal delays combine said received signal inputs resulting in a combined signal, and after said combined signal reaches a predetermined threshold, distortion is introduced into said combined signal, and wherein each delay of said plurality of audio signal delays generates an outgoing signal according to said selectable delay time, and wherein said outgoing signal comprises said combined signal and any distortion that has been introduced.

2. (Original) The system according to claim 1, wherein each outgoing signal generated by each delay of said plurality of audio signal delays is mixed by a mixer to produce at least one outgoing mixed audio signal.

3. (Original) The system according to claim 2, wherein said mixer separately provides low-speed auto-panning location modulation to each outgoing signal generated by each delay of said plurality of audio signal delays.

4. (Original) The system according to claim 1, wherein each outgoing signal generated by each delay of said plurality of audio signal delays is processed by a dedicated signal processor resulting in a corresponding plurality of processed signals, wherein said plurality of processed signals are mixed by a mixer to produce at least one outgoing mixed audio signal.

5. (Original) The system according to claim 4, wherein said mixer separately provides low-speed auto-panning location modulation to each outgoing signal generated by each delay of said plurality of audio signal delays.

6. (Original) The system according to claim 4, wherein said dedicated signal processor further includes an auto-panner swept at a rate corresponding to a sub-audio frequency.

7. (Original) The system according to claim 4, wherein said dedicated signal processor comprises a flanger swept at a rate corresponding to a sub-audio frequency.

8. (Original) The system according to claim 4, wherein said dedicated signal processor comprises a chorus swept at a rate corresponding to a sub-audio frequency.

9. (Original) The system according to claim 2, wherein said system provides one signal processing layer of a multi-layered signal processing system.

10. (Original) The system according to claim 2, wherein said system is incorporated into a spatially-distributed timbral realization system.

11. (Original) The system according to claim 1, wherein said selectable delay time for at least one delay of said plurality of audio signal delays is controlled by an incoming delay control signal.

12. (Original) The system according to claim 1, wherein said high resonance positive feedback signal of at least one delay of said plurality of audio signal delays is controlled by an incoming feedback control signal.

13. (Original) The system according to claim 2, wherein said mixer is controlled by an incoming mixer control signal.

14. (Original) The system according to claim 4, wherein said dedicated signal processor for at least one delay of said plurality of delays is controlled by an incoming signal processor control signal.

15. (Original) The system according to claim 1, wherein at least one of said plurality of delays is controlled in real-time by a measured attribute of said incoming audio signal.

16. (Original) The system according to claim 1, wherein said high resonance positive feedback signal of at least one delay of said plurality of audio signal delays is controlled in real-time by a measured attribute of said incoming audio signal.

17. (Original) The system according to claim 2, wherein said mixer is controlled in real-time by a measured attribute of said incoming audio signal.

18. (Original) The system according to claim 4, wherein said dedicated signal processor for at least one delay of said plurality of delays is controlled by a measured attribute of said incoming audio signal.

19. (Original) The system according to claim 4, wherein said dedicated signal processor for at least one delay of said plurality of delays comprises a chorus.

20. (Original) The system according to claim 4, wherein said dedicated signal processor for at least one delay of said plurality of delays comprises a flanger.

21. (Original) The system according to claim 4, wherein said dedicated signal processor for at least one delay of said plurality of delays comprises a chorus and a flanger.

22. (Original) The system according to claim 1, wherein at least one of said plurality of audio signal delays is controlled according to stored program control.

23. (Original) The system according to claim 2, wherein said mixer is controlled according to stored program control.

24. (Original) The system according to claim 4, wherein said dedicated signal processor for at least one delay of said plurality of delays is controlled according to stored program control.

25. (Original) The system according to claim 1, wherein said desired resonant frequency, for each of said plurality of audio signal delays, is determined by a selectable musical scale.

26. (Original) A method for enriching timbre of audio signals by adding swelling resonance, twang, or both, said method comprising:

receiving an incoming audio signal at each delay of a plurality of audio signal delays;

receiving a distinct high resonance positive feedback signal at each delay of said plurality of audio signal delays, wherein each individual delay of said plurality of audio signal delays includes a distinct selectable delay time corresponding to a period of a desired resonant frequency;

generating a combined signal for each delay of said plurality of audio signal delays by combining said incoming audio signal and said high resonance positive feedback signal associated with an individual delay of said plurality of audio signal delays, wherein said generating is performed for each delay of said plurality of audio signal delays to generate a corresponding plurality of combined signals;

introducing distortion into a particular combined signal of said plurality of combined signals after said particular combined signal reaches a predetermined threshold, wherein said introducing is performed for each delay of said plurality of audio signal delays; and

providing an outgoing signal from each delay of said plurality of audio signal delay according to said selectable delay time, wherein said outgoing signal comprises said combined signal and any distortion that has been introduced.

27. (Original) The method according to claim 26, wherein each outgoing signal generated by each delay of said plurality of audio signal delays is mixed by a mixer to produce at least one outgoing mixed audio signal.

28. (Original) The method according to claim 27, wherein said mixer separately provides low-speed auto-panning location modulation to each outgoing signal generated by each delay of said plurality of audio signal delays.

29. (Original) The method according to claim 26, wherein each outgoing signal generated by each delay of said plurality of audio signal delays is processed by a dedicated signal processor resulting in a corresponding plurality of processed signals, wherein said plurality of processed signals are mixed by a mixer to produce at least one outgoing mixed audio signal.

30. (Original) The method according to claim 29, wherein said mixer separately provides low-speed auto-panning location modulation to each outgoing signal generated by each delay of said plurality of audio signal delays.

31. (Original) The method according to claim 29, wherein said dedicated signal processor further includes an auto-panner swept at a rate corresponding to a sub-audio frequency.

32. (Original) The method according to claim 29, wherein said dedicated signal processor comprises a flanger swept at a rate corresponding to a sub-audio frequency.

33. (Original) The method according to claim 29, wherein said dedicated signal processor comprises a chorus swept at a rate corresponding to a sub-audio frequency.

34. (Original) The method according to claim 27, wherein said method is implemented within one signal processing layer of a multi-layered signal processing system.

35. (Original) The method according to claim 27, wherein said method is implemented within a spatially-distributed timbral realization system.

36. (Original) The method according to claim 26, wherein said selectable delay time for at least one delay of said plurality of audio signal delays is controlled by an incoming delay control signal.

37. (Original) The method according to claim 26, wherein said high resonance positive feedback signal of at least one delay of said plurality of audio signal delays is controlled by an incoming feedback control signal.

38. (Original) The method according to claim 27, wherein said mixer is controlled by an incoming mixer control signal.

39. (Original) The method according to claim 29, wherein said dedicated signal processor for at least one delay of said plurality of delays is controlled by an incoming signal processor control signal.

40. (Original) The method according to claim 26, wherein at least one of said plurality of delays is controlled in real-time by a measured attribute of said incoming audio signal.

41. (Original) The method according to claim 26, wherein said high resonance positive feedback signal of at least one delay of said plurality of audio signal delays is controlled in real-time by a measured attribute of said incoming audio signal.

42. (Original) The method according to claim 27, wherein said mixer is controlled in real-time by a measured attribute of said incoming audio signal.

43. (Original) The method according to claim 29, wherein said dedicated signal processor for at least one delay of said plurality of delays is controlled by a measured attribute of said incoming audio signal.

44. (Original) The method according to claim 29, wherein said dedicated signal processor for at least one delay of said plurality of delays comprises a chorus.

45. (Original) The method according to claim 29, wherein said dedicated signal processor for at least one delay of said plurality of delays comprises a flanger.

46. (Original) The method according to claim 29, wherein said dedicated signal processor for at least one delay of said plurality of delays comprises a chorus and a flanger.

47. (Original) The method according to claim 26, wherein at least one of said plurality of audio signal delays is controlled according to stored program control.

48. (Original) The method according to claim 27, wherein said mixer is controlled according to stored program control.

49. (Original) The method according to claim 29, wherein said dedicated signal processor for at least one delay of said plurality of delays is controlled according to stored program control.

50. (Original) The method according to claim 26, wherein said desired resonant frequency, for each of said plurality of audio signal delays, is determined by a selectable musical scale.